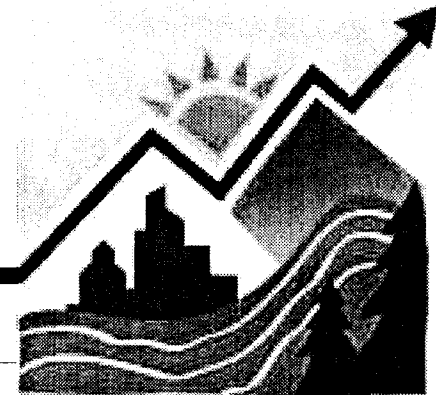


# **ENVIRONMENTAL PROTECTION INDICATORS FOR CALIFORNIA (EPIC)**



## **PROJECT OVERVIEW**

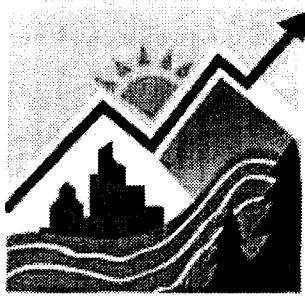
Carmen Milanes, M.P.H.  
Office of Environmental Health Hazard Assessment

August 8, 2001



# What is an environmental indicator?

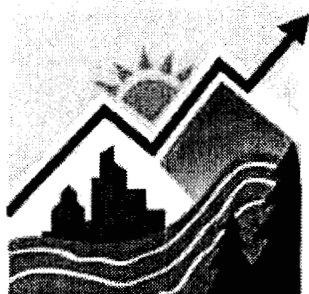
- A measure that presents scientifically based information on the status of, and trends in environmentally-related parameters.
- It has a significance extending beyond that directly associated with the parameter measured.



# Environmental indicators as new tools for Cal/EPA

Environmental indicators as part of the strategic planning process: “managing toward environmental results”

- ❖ formulating policy
- ❖ allocating resources for maximum value
- ❖ making adjustments to priorities



# Types of Indicators

Mission-based

assess status and trends associated  
with the agency's mission  
= **Environmental Indicators**  
for Cal/EPA

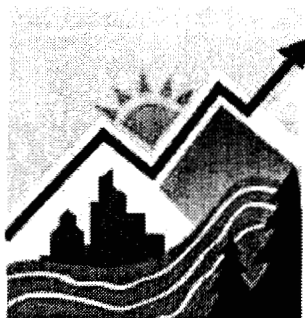
Policy

Program performance

Program activity/efficiency

Administrative

Source: FSU/USEPA, *Chemical and Pesticides  
Results Measures*, January 2001



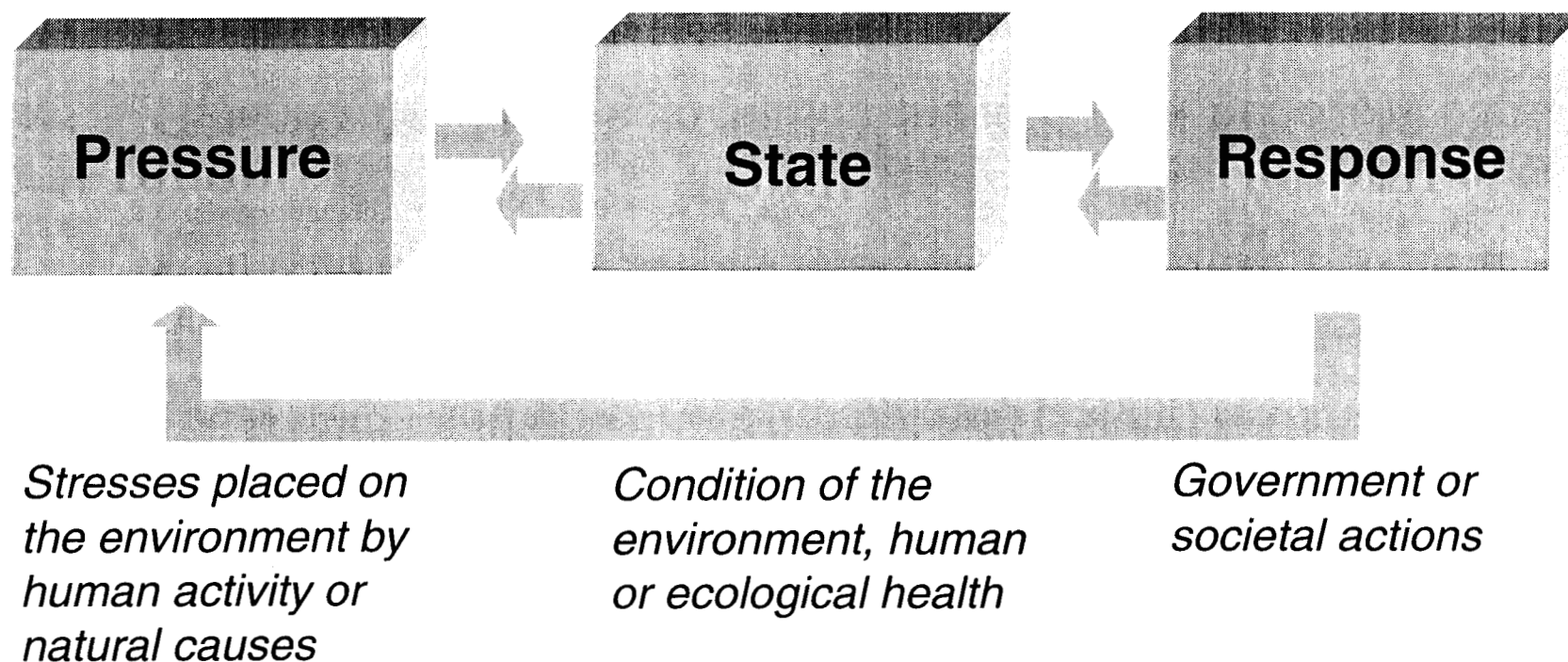
# Cal/EPA Strategic Goals

[www.calepa.ca.gov/Publications/Reports/stratplans/2000](http://www.calepa.ca.gov/Publications/Reports/stratplans/2000)

- 
- Goal 1:** Air that is healthy to breathe, sustains and improves our ecosystems and preserves natural and cultural resources.
- Goal 2:** Rivers, lakes, estuaries and marine waters that are fishable, swimmable, support healthy ecosystems and other beneficial uses.
- Goal 3:** Groundwater that is safe for drinking and other beneficial uses.
- Goal 4:** Communities that are free from unacceptable human and ecological risks due to exposure from hazardous substances and other potential harmful agents.
- Goal 5:** Reduce or eliminate the disproportionate impacts of pollution on low-income and minority populations.
- Goal 6:** Ensure the efficient use of natural resources.



# Pressure-State-Response



Source: Organisation for Economic Cooperation and Development

# Hierarchy of Indicators

*This is how we measure environmental change*

## Administrative

### LEVEL 1

Actions by  
EPA/State  
Regulatory  
Agencies

### LEVEL 2

Responses of  
the Regulated &  
Nonregulated  
Community

## Environmental

### LEVEL 3

Changes in  
Discharge/  
Emission  
Quantities

### LEVEL 4

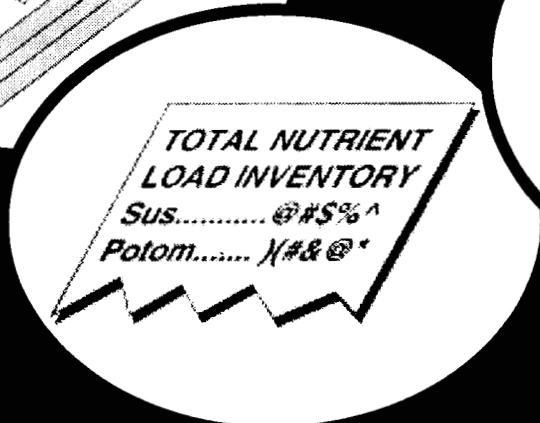
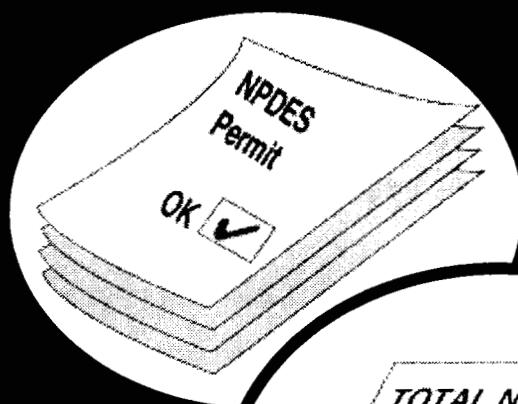
Changes  
in Ambient  
Conditions

### LEVEL 5

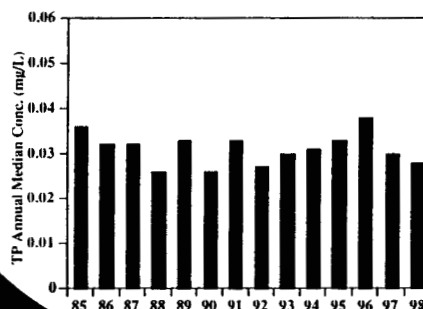
Changes in  
Uptake  
and/or  
Assimilation

### LEVEL 6

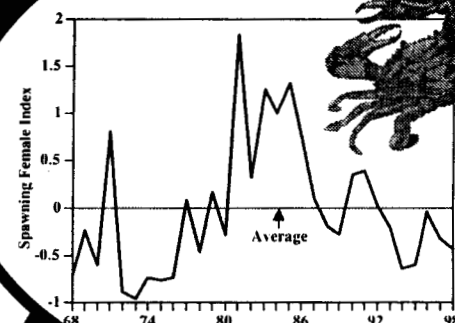
Changes in  
Health,  
Ecology, or  
Other Effects



### TOTAL PHOSPHORUS



### BLUE CRAB





# Environmental Protection Indicators for California

## ***Directive:***

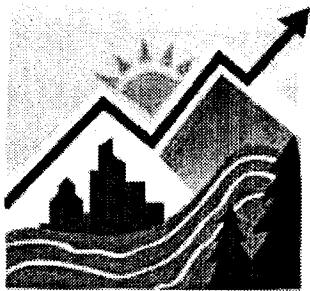
OEHHA to collaboratively develop  
environmental indicators for Cal/EPA

## ***Project's first year goal:***

To develop a process for identifying  
environmental indicators and an initial set of  
indicators using an open, participatory process  
involving various collaborators.

⇒ Report entitled, *A Framework for Cal/EPA's  
Environmental Indicator System*

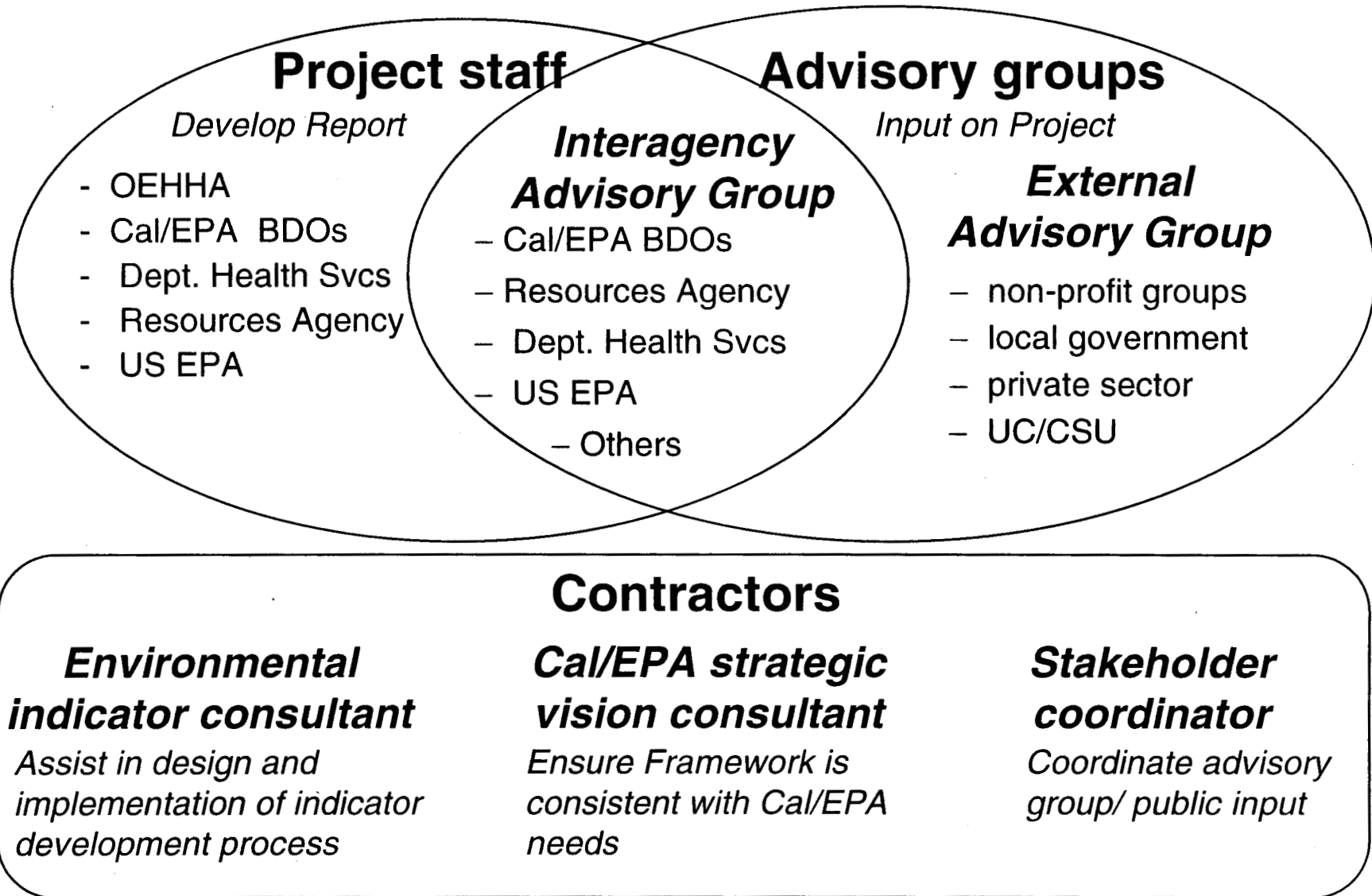


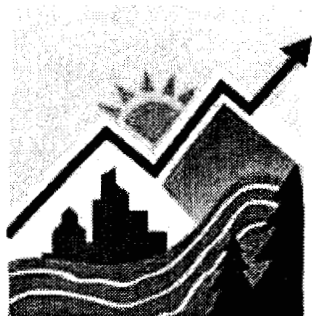


## Scope of EPIC

- ✓ Reflects an issue that affects California, or a global/transboundary issue of interest to California
- ✓ Relates to the missions of Cal/EPA and areas of overlapping jurisdictions with the Resources Agency, Department of Health Services
- ✓ Measure **pressures** exerted on the environment by human activities, ambient environmental **conditions**, or **effects** on human or ecological health

# EPIC Collaborators





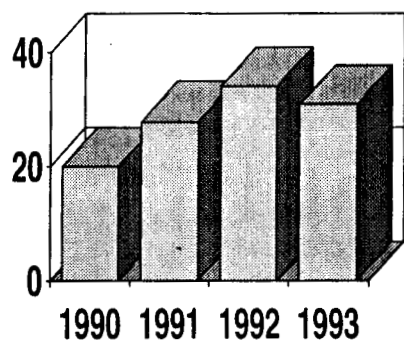
# Developing an “environmental indicator framework”

What are the  
**environmental**  
issues?

DRAFT  
“Issue  
Structure”

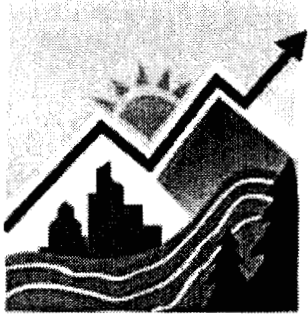
Air quality  
Water  
Land/Waste/Materials  
Management  
Human Health  
Ecosystem Health  
Pesticides  
Transboundary Issues

**Develop  
Indicator**



**Criteria**

How can these  
be **measured**?



# Indicator Selection

## Primary criteria

- ✓ Data quality
- ✓ Representativeness
- ✓ Sensitivity
- ✓ Decision support

## Secondary criteria

- ✓ Availability
- ✓ Data collection cost
- ✓ Data management
- ✓ Cost-effectiveness

## How “integrative”?

- ✓ Integrative indicators
- ✓ Index
- ✓ Indicator suite



# EPIC: Next steps

## ***Maintenance of EPIC system***

- continuous public input and comment on indicator system
- ongoing project staff evaluation, validation and updating of indicator system
- annual evaluation by boards/departments to ensure consistency with strategic plans



## IWM Tip Fee Discount Calculation (2001)

Permitting and Enforcement Division		% of time spent on	
Branches	Total Budget	active landfills	Net Cost
Remediation, Closure & Technical Services	\$808,865	20%	\$161,773
Permitting and Inspections	\$1,882,312	80%	\$1,505,850
Facilities Operations	\$1,176,324	80%	\$941,059
LEA Support Services	\$167,977	25%	\$41,994
<b>Total</b>			<b>\$2,650,676</b>
<b>Board's IWMA Budget</b>	<b>\$50,641,000</b>		
<b>% of Total Budget Spent on Active Landfills/ IWM Tip Fee Discount</b>		<b>5.2%</b>	

Using the discount rate of 5.2%, the discounted IWM Fee for \$1.34 would be \$1.27, and for \$1.40 it would be \$1.32.